

**REMARKS**

In response to the above-identified Office Action, Applicant has amended claim 22 and the specification to put the application in better condition for allowance. Applicant submits that no new matter has been added by this amendment and that support for amended claim 22 may be found throughout the specification and drawings as originally filed.

Applicant's invention relates to a helical antenna manufacturing apparatus comprised of a core made of insulative material; a first roller that prints a conductive and viscous paste on a surface of the core to form a helical line; a roller driver rotating the first roller; a core driver rotating the core and moving the same in a longitudinal direction; and a controller controlling the roller driver and the core driver to control an rpm of the core, a longitudinal moving speed of the core, and the rpm of the roller, wherein the longitudinal moving speed is set according to the working frequency bands of the antenna.

**35 U.S.C. §112**

Claim 22 is rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

Applicant has amended claim 22 and now believes the claim is in condition for allowance. Accordingly, Applicant respectfully requests reconsideration of the claim and withdrawal of this as a basis for rejection.

**35 U.S.C. §102**

Claims 1-27 are rejected under 35 U.S.C. §102(b) as being anticipated by Benge et al. (4,843,404). Applicant respectfully traverses with this as a basis for rejection.

The Benge et al. reference discloses a method of making tags that include a resonant circuit for use in an electronic article surveillance system. The tags are formed using sheets

having pressure sensitive adhesive on opposite faces thereof. A mask in a spiral pattern covers a portion of each adhesive sheet and a release sheet is releasably adhered to the adhesive. The mask renders the adhesive which it covers non-tacky or substantially so. A conductor spiral includes a spiral conductor having a number of turns. A sheet of dielectric is adhered to the conductor spiral and the underlying sheet by means of the pressure sensitive adhesive. Thereafter, the above-described process is repeated to form the article surveillance system tags as according to the invention.

Applicant's invention claims a helical antenna manufacturing apparatus comprising a core made of insulative material wherein a first roller is used to *print a conductive and viscous paste* on a surface of the core to form a helical line. Applicant submits that the '404 reference does not disclose a manufacturing apparatus for manufacturing a helical antenna wherein the apparatus includes a first roller that prints a conductive and viscous paste on a surface of the core to form the helical antenna. The conductors in the '404 reference are disclosed as prewound conductive material, not as a printed conductive and viscous paste on a surface of a core (see Figure 1 elements 25 and 30). The '404 reference describes the printing of mask patterns onto the adhesive sheets for rendering the covered adhesive material non-tacky, not conductive material (column 3, lines 16-34; and Figure 1, element 23).

Anticipation has always been held to require absolute identity and structure between the claimed structure and a structure disclosed in a single reference. Applicant respectfully submits that the conductor of the '404 reference is preformed of a flat conductive material such as copper or aluminum from a roll (see column 3, lines 30-32), not a printed conductive paste on a surface of the core as according to Applicant's claimed invention. Accordingly, without the requisite absolute identity between the claimed structure and the structure disclosed in the '404 reference,

Applicant submits that the present rejection under 35 U.S.C. §102 cannot be sustained. As such, Applicant respectfully requests that this be withdrawn as a basis for rejection.

Claims 8, 16, 18 and 23 are rejected under 35 U.S.C. §102(b) as being anticipated by Auriol (5,134,422). Applicant respectfully traverses with this as a basis for rejection.

The '422 reference discloses a helical type antenna having at least one radiating cord which is helically *wound* in a rotational form around a sleeve (see column 3, lines 41-68; column 4, lines 1 and 2). Applicant claims a method and apparatus of manufacturing a helical antenna wherein the apparatus comprises a core made of insulative material having a conductive helical line printed on a surface of the core. The '422 reference does not disclose the printing of a conductive material on the surface of a dielectric as part of the process of manufacturing the helical antenna therein. Accordingly, Applicant submits that without the requisite absolute identity between the claimed invention and the cited reference, the present rejection under 35 U.S.C. §102(b) cannot be sustained. As such, Applicant respectfully requests that this be withdrawn as a basis for rejection.

Additionally, Applicant submits that the claimed invention would not be obvious in view of either of the above-cited references. Without a requisite teaching or suggestion disclosed in the primary reference, a prima facie obviousness rejection cannot be sustained. Neither of the above-cited references teach or suggest the printing of a conductive paste on the surface of an insulative core to form a helical antenna as according to Applicant's invention. Accordingly, Applicant submits that the present invention would not be obvious in view of these references alone or in combination.

From the foregoing, Applicant submits that none of the present claims are anticipated or obvious over any permissible use of the prior art of record. Accordingly, they define patentable

subject matter and are in condition for allowance. As such, Applicant respectfully requests that such action be taken toward these ends.



Respectfully submitted,

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~~Janice R. Kucha~~ ANNMARIE MARCIW